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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF ENGINEERING AND TECHNOLOGY
ET DOCKET NO. 13-49

Notice of Request for Comments: Phase I Testing of Prototype U-NII-4 Devices

SUBMITTED BY:
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The American Trucking Associations, Inc. (ATA)[1] provides these comments in response to the October 29, 2018, Federal Communications Commission (FCC) public notice, *Office of Engineering Technology (OET) Requests Comment on Phase I Testing of Prototype U-NII-4 Devices*. As the national representative of the trucking industry, ATA has a strong interest in highway safety for all motorists. Highways are the motor carriers' and drivers' workplace. Employing more than 7.5 million people and moving 10.8 billion tons of freight annually, trucking is the industry most responsible for moving America's economy. The trucking industry moves 70.2 percent of our nation's domestic freight and is a critical player in the safety of our nation's roadways, spending over $9.5 billion per year on safety training, technology, equipment, and management.

ATA was pleased to see the FCC release the report on the completion of the Commission's first of three phases of testing being performed to evaluate potential sharing solutions between the proposed Unlicensed National Information Infrastructure (U-NII) devices and Dedicated Short Range Communications (DSRC) operations in the 5850-5925 MHz (U-NII-4, or 5.9 GHz) frequency band. ATA has long sought to advance the deployment of wireless communications technologies as a means of improving road safety and promoting innovation in the trucking and transportation industries. As a strong supporter of road safety, ATA continues to be a leader in promoting use of DSRC in the 5.9 GHz band.

[1] ATA is a united federation of motor carrier and allied members, state trucking associations, and national trucking conferences and councils created to promote and protect the interests of the trucking industry. Directly and through its affiliated organizations, ATA represents more than 40,000 industry stakeholders in the United States encompassing every type and class of motor carrier operation.

The 5.9 GHz DSRC spectrum remains the foundation of any successful deployment of vehicle-to-vehicle (V2V), vehicle-to-infrastructure (V2I), or vehicle-to-everything (V2X) communications systems because no other technology available today has the capability to provide the performance that freight vehicles demand. The National Highway Traffic Safety Administration (NHTSA) has estimated that just four DSRC-based V2V applications could avoid or mitigate 89 percent of light duty vehicle crashes,[2] and this will have benefits for all road users. While NHTSA is currently conducting research on V2V for heavy vehicles as well, the agency estimates that 70 percent of crashes involving trucks occurred in scenarios that could potentially be addressed by V2V systems.[3] We therefore strongly support maintaining the 5.9 GHz band for interference-free DSRC-based V2X applications.

In the notice requesting comment, the FCC notes that, "…there have been a number of developments since the three-phase test plan was announced in 2016—such as the introduction of new technologies for autonomous vehicles, the evolution of the Wi-Fi standards, the development of cellular vehicle-to-everything technology, and the limited deployment of DSRC in discrete circumstances. We invite comment on how any of these factors or others should impact our evaluation of the test results, our three-phase test plan, or our pending proceeding on unlicensed use in the 5.9 GHz band."

Among the developments since 2016 is the rapid development of driver-assistive truck platooning enabled by DSRC technology. Truck platooning uses V2V communication to connect the active safety systems – braking, acceleration, and in some cases steering between trucks – allowing them to travel closer together than would otherwise be possible for aerodynamic fuel efficiency. This V2V link, which takes place on DSRC channels – separate from those reserved for other uses – provides a robust, near-instantaneous connection, allowing trucks to react significantly faster than a human or even radar sensors could on their own, thereby suggesting safety improvements beyond conventional trucks on the road today. As described in ATA's August 22, 2018 letter to this docket,[4] DSRC-based automated vehicle systems, including truck platooning, have been successfully demonstrated on U.S. roads by a number of manufacturers as well as the U.S. DOT.[5] Additional developments since 2016 include federal and state DSRC projects identified in DOT's *Preparing for the Future of Transportation: Automated Vehicles 3.0*,[6] "Throughout the Nation there are over 70 active deployments of V2X communications utilizing the 5.9 GHz band. U.S. DOT currently estimates that by the end of 2018, over 18,000 vehicles will be deployed with aftermarket V2X communications devices and over 1,000 infrastructure V2X devices will be installed at the roadside. Furthermore, all seven channels in the 5.9 GHz band are actively utilized in these deployments." Also, announced plans of two

[2] See 82 Federal Register 3863.
[3] Chang, J. (2016, July). Summary of NHTSA heavy-vehicle vehicle-to-vehicle safety communications research. (Report No. DOT HS 812 300). Washington, DC: National Highway Traffic Safety Administration.
[4] ATA letter to FCC, Subject: ET Docket No. 13-49, Revision of Part 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U-NII) Devices in the 5 GHz Band, August 22, 2018.
[5] https://www.fhwa.dot.gov/pressroom/fhwa1713.cfm.
[6] Preparing for the Future of Transportation, Automated Vehicles 3.0 (p. 14), U.S. DOT, October 2018, https://www.transportation.gov/av.

automobile manufacturers, Toyota[7] and General Motors,[8] will greatly expand the number of DSRC-equipped vehicles on the roads in the next few years.

Taken together, these developments and investments since 2016 by both the public and private sector highlight the need for the FCC to not only ensure that the 5.9 GHz band remains free from harmful interference, but also that any rule changes to allow sharing in this band must not disrupt the current deployments and innovations that are occurring under existing FCC rules. Maintaining the full breadth of seven channels in the 5.9 GHz spectrum for DSRC free from harmful interference is essential towards enabling a wide deployment for V2X that accommodates all vehicle types, road users and infrastructure operators that will facilitate the safe and efficient movement of people and goods.

When announcing the first phase of the Commission's three-phase test plan to explore sharing the 5.9 GHz band with unlicensed devices, the FCC explained that, "The data resulting from the Commission's tests are intended to inform the Phase II and Phase III analyses in which other relevant factors can be given further consideration, and the analytical results can be validated through limited field tests similar to those described in Section 6.0 of the DoT Test Plan," and, "Our goal is to collect the relevant empirical data for use in analyzing and quantifying the interference potential introduced to DSRC receivers from unlicensed transmitters operating simultaneously in the 5.850-5.925 GHz band. We anticipate that the tests conducted to date, combined with the results of the three-phase test plan described above, will provide reliable, real-world data on the performance of unlicensed devices designed to avoid interfering with DSRC operations in the 5.850-5.925 GHz band."[9] ATA believes that the FCC should continue with the testing approach as originally envisioned, and that no actions to open the 5.9 GHz band to unlicensed users should be taken without completing the three-phase test plan.

Thank you again for the opportunity to submit these comments. If you have any questions, please contact Ross Froat at (703) 838-7980 or rfroat@trucking.org.

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[7] https://corporatenews.pressroom.toyota.com/releases/toyota+and+lexus+to+launch+technology+connect+vehicles+infrastructure+in+u+s+2021.htm.

[8] https://media.gm.com/media/cn/en/gm/news.detail.html/content/Pages/news/cn/en/2018/June/0606_Cadillac-Lineup.html.

[9] The Commission Seeks to Update and Refresh the Record in The "Unlicensed National Information Infrastructure (U-NII) Devices in The 5 GHz Band" Proceeding, ET Docket No. 13-49, Public Notice, 31 FCC Rcd 6130 (2016) (U-NII-4 Public Notice, page 11.